

DOCKET NO.: ABTT-0214/B0000070
Application No.: 09/919,281
Office Action Dated: January 29, 2003

PATENT

REMARKS/ARGUMENTS

Entry of this response and reconsideration and allowance of the above-identified patent application are respectfully requested. Claims 1-49 were rejected. Upon entry of this response, claims 1-49 will be pending in the application.

In the official action, claims 1-49 stand rejected under 35 U.S.C. § 102 (e) as allegedly being anticipated by Jungreis *et al.* (U.S. Patent No. 6,369,461) ("Jungreis"). In particular, the office action contends that Jungreis discloses "a high efficiency power condition employing low voltage DC bus and buck and boost converters in figures 1-3" and a "fuel cell-10, battery-22, controlling battery-24, maintaining DC voltage-12 and DC to AC inverter-16." (*Office Action dated January 29, 2003 at p.2*).

The present invention is directed to converting direct current (DC) electrical voltage from a DC power source (*e.g.*, a fuel cell) to an alternating current (AC) voltage. In one embodiment, recited in claim 15, a system converts the DC power using a DC-to-AC inverter coupled to a DC bus. Also, a converter (*e.g.*, a boost converter) coupled to the DC bus and to the DC power source, maintains a substantially constant voltage on the DC bus by regulating power from the DC power source. The system also includes a battery, and a device coupled to the battery and to the converter that controls the flow of current to and from the battery. The system controls power from the battery based on DC power available from DC power source so as to maintain a substantially constant voltage on the DC bus, despite the fluctuating voltage provide by the DC power source. Applicants respectfully assert that Jungreis does not anticipate the present invention.

Both Jungreis and the present application disclose a fuel cell and battery connected to a DC bus, and an inverter connected to the DC bus. Although similar

DOCKET NO.: ABTT-0214/B0000070
Application No.: 09/919,281
Office Action Dated: January 29, 2003

PATENT

components are used, the Examiner is respectfully requested to recognize that the circuit topology is different. In particular, Jungreis connects the fuel cell 10 to the varying low-voltage dc bus 14 and boosts the voltage that is provided to the bus from the battery 22 using the DC-to-DC boost converter 16. As a result, the voltage on the DC bus 14 varies depending on the load, and thus the inverter operates over a large input voltage range.

The present invention, on the other hand, is designed to maintain a substantially constant voltage on the DC bus at a voltage level that is just above the battery voltage.

This is accomplished by the present invention, in part, by connecting the fuel cell 101 to the DC bus 108 through a boost converter 103. This distinction is recited in the claims. For example, claims 1 and 10 recite "maintaining a substantially constant DC voltage on the DC bus." Also, for example, claim 39 recites "a boost converter coupled to the fuel cell, wherein the boost converter maintains a substantially constant DC voltage on the DC bus by regulating power from the fuel cell." Therefore, although the present application uses some similar components to those used in Jungreis, the configuration and resulting operation of the components are patentably distinct.

Accordingly, applicant respectfully requests withdrawal of the rejection of claims 1-49 as allegedly being anticipated by Jungreis.


DOCKET NO.: ABTT-0214/B0000070
Application No.: 09/919,281
Office Action Dated: January 29, 2003

PATENT

CONCLUSION

In view of the foregoing amendments and remarks, the present application is believed to be in condition for allowance, and a Notice of Allowability is respectfully solicited. In the event that the Examiner cannot allow the present application for any reason, the Examiner is encouraged to contact the undersigned attorney, Vincent J. Roccia at (215) 564-8946, to discuss resolution of any remaining issues.

Date: July 28, 2003



Vincent J. Roccia
Registration No. 43,887

Woodcock Washburn LLP
One Liberty Place - 46th Floor
Philadelphia PA 19103
Telephone: (215) 568-3100
Facsimile: (215) 568-3439